Massachusetts Estuaries Project

Implementation Committee

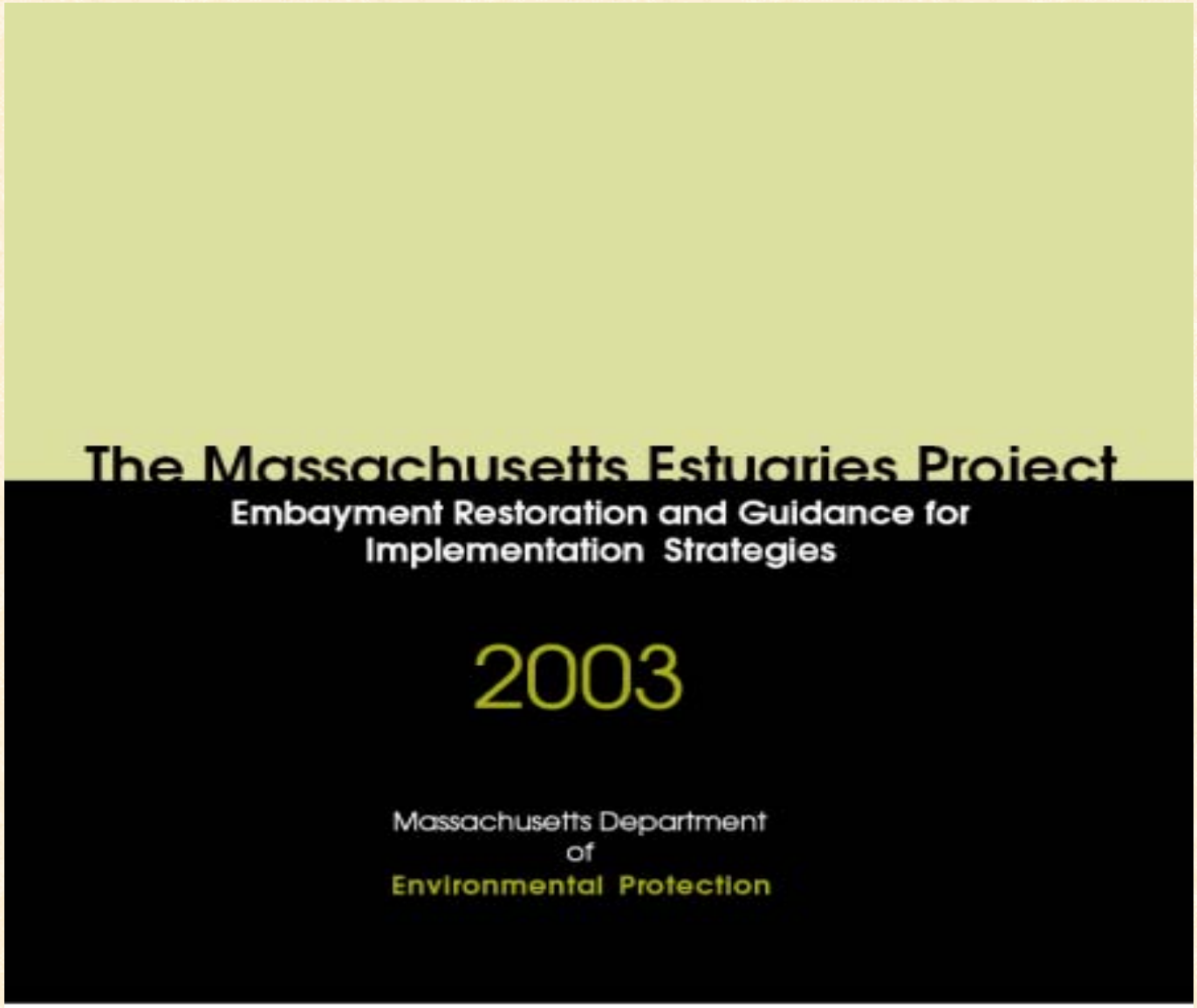
March 31, 2004

Meeting Agenda

1. Milestones since May ’02 meeting
2. Findings to date
3. Upcoming TMDL process
4. EPA grant for pilot project
5. Group Discussion: Implementation Strategies, MEP policy issues and other questions, concerns and issues

MEP Milestones

✓ **Guidance Completed March 2003**



MEP Milestones

- ✓ Site-Specific Nitrogen Thresholds, Interim Document, completed July 2003
  - **SA Waters Classification**
    - Excellent Health
    - Excellent to Good Health
  - **SB Waters Classification**
    - Good to Fair Health
  - **Impaired**
    - Moderate
    - Significantly Impaired
    - Severely Degraded

MEP Milestones

- ✓ Final Technical Reports for 5 Chatham Estuaries, completed December 2003
- ✓ Draft Technical Reports for Popponesset Bay (Mashpee/Barnstable/Sandwich) and Hamblin Pond - Jehu Pond - Quashnet River (Mashpee), completed March 2004
- ✓ Draft Technical Reports for Great, Green and Bournes Ponds (Falmouth), due March/April 2004

MEP Milestones

- ✓ Draft TMDLs for Chatham estuaries, due Spring 2004
- ✓ 4 bacterial TMDLs completed
  - ✓ Muddy Creek, Frost Fish Creek – Chatham
  - ✓ Oyster Pond – Falmouth
  - ✓ Princes Cove – Barnstable
- ✓ 3 bacterial TMDLs in progress
  - ✓ Nantucket Harbor, Sesachacha Pond-Nantucket
  - ✓ New Bedford Harbor – New Bedford
  - ✓ Oyster Pond, Falmouth

MEP Milestones

- ✓12 MEP communities out of 34 have committed matching funds for project with 3 others pending Spring Town Meeting votes
- ✓$200,000 EPA grant awarded to DEP for pilot project in three MEP watersheds, September 2003
- ✓ $2 million state funds invested in MEP

Future MEP Targets

- Draft Technical Reports for first 20 estuaries, May 2005
- Estuaries 21-34:
  - Prioritized and data collection is underway
  - Draft Technical Reports in 2006
- Remaining systems to be scheduled based on following criteria
  - Data, financial commitment, geographic distribution, ongoing IWRMP

MEP Documents

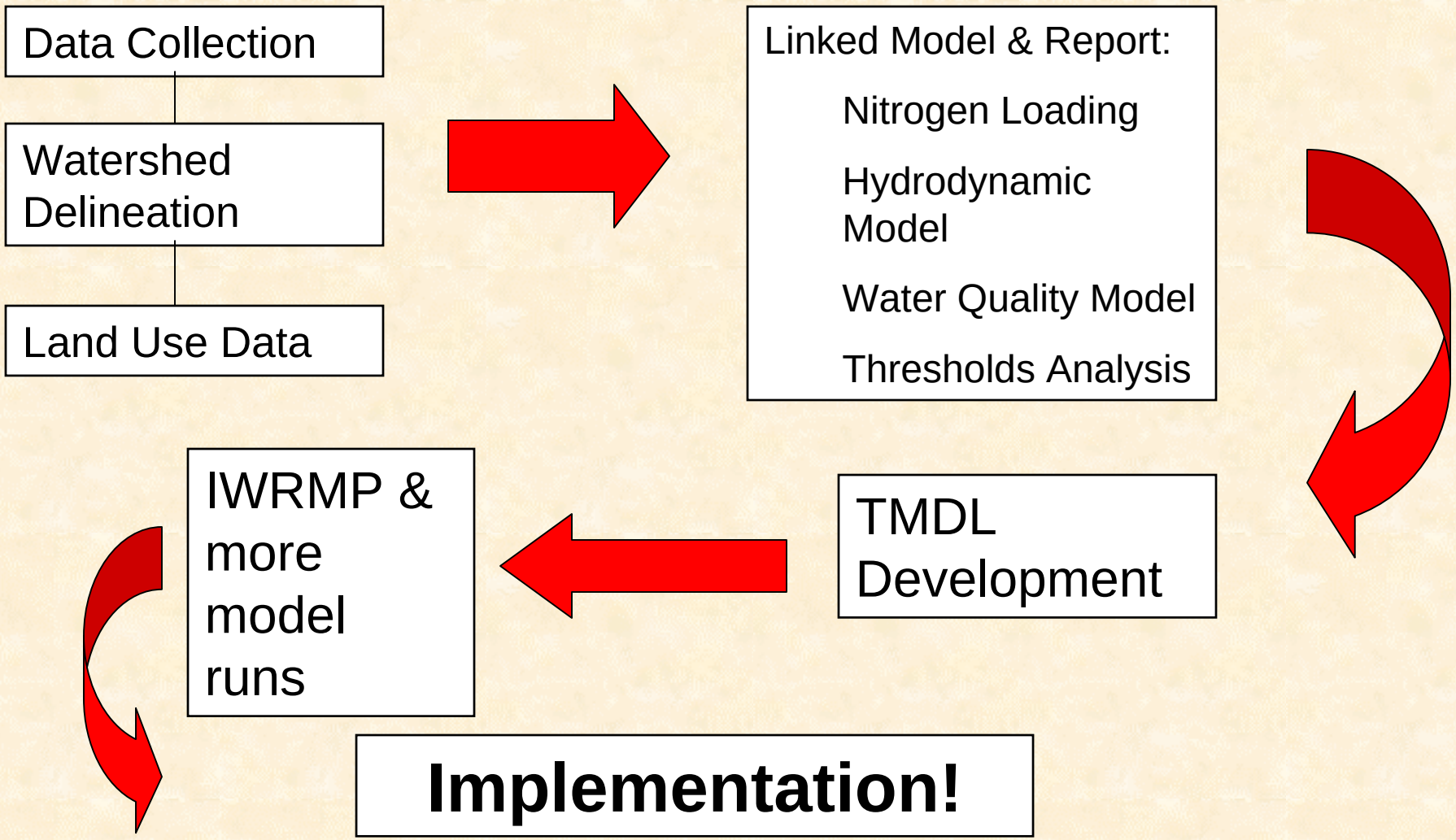
Available on DEP's Estuaries Home Page

http://www.state.ma.us/dep/smerp/smerp.htm

Click on Estuaries Project

in the Drop Down Menu

MEP Process


Data Collection
Watershed Delineation
Land Use Data
Linked Model & Report:
Nitrogen Loading
Hydrodynamic Model
Water Quality Model
Thresholds Analysis
TMDL Development
IWRMP & more model runs
Implementation!

General Findings to Date

- Elevated levels of nitrogen attributed primarily to wastewater loads, with on-site systems being the leading contributor
- Chatham: 50% - 90% reduction needed in wastewater load from on-site systems

General Findings to Date

- Level of nitrogen reduction needed to restore estuaries are 1-2 orders of magnitude below current standards.
- Title 5 440 gpda standard is not adequate
- Watershed-wide solutions are needed

TMDL Process for Chatham

- Public draft TMDL available for review and comment, Spring 2004
- Public Meeting, by June 2004
- Final TMDL and response to comments to be prepared by DEP and submitted to EPA for approval in June 2004

MEP Pilot Project

EPA Funds for Guidance and Permitting Tools

- Watershed-based permitting
- Innovative nitrogen reduction, including nutrient trading
- Inter-community cooperation
- DEP policies and regulations

Process for MEP Pilot

- Choose three pilot watersheds to reflect variety of MEP communities
- Support watershed-wide communication and solutions
- Evaluate nitrogen reduction strategies
- Provide additional modeling through SMAST

Three Pilot Watersheds

- Wareham River - Wareham, Plymouth and Carver
  - Large NPDES POTW
  - Growth in upper reaches of watershed
- Popponesset Bay - Mashpee, Barnstable and Sandwich
  - Multiple towns in watershed
  - Privately-owned wastewater treatment facilities
- Three Bays - Barnstable, Sandwich, and Mashpee
  - Mix of open space and developed areas
  - Large load from on-site systems

Pilot Project Results

- Case study for mix of 3 MEP watersheds
- Guidance for all watersheds
- Roadmap for changes in DEP policies and regulations

MEP Implementation

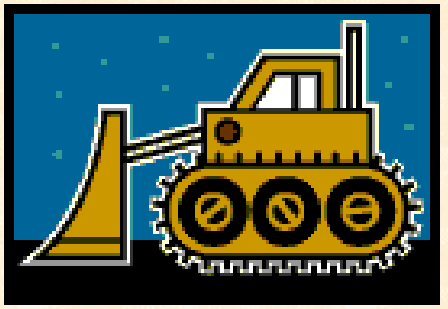
- Watershed-wide focus
- Community driven approach based on CWMP
- Technical Approaches
- Institutional Approaches

MEP Implementation - Watershed-wide Approaches

- Watershed CWMP
- Uniform application of comprehensive local nutrient management regulations
- Watershed-wide Permit issued to
  - Municipalities
  - County
  - Management District

MEP Implementation - Technical Approaches

- Flushing improvements
- Natural Attenuation
- Stormwater Control and Treatment
- Enhanced Wastewater Treatment
- Wastewater Reuse
- Water Conservation



MEP Implementation - Institutional Approaches

- Management Districts
- Land Use Controls
- Nutrient Trading

Management District Features

- Permittee for watershed, based on watershed boundaries
- Responsible for wastewater infrastructure
- Oversees on-site system O&M
- Authorized to assess and collect fees

Interim Nutrient Controls?

- Dry sewer installation
- I/A on-site systems
- “State of the art treatment” nitrogen removal to 3mg/l at WWTFs
- Escrow accounts (Yarmouth example)
- Local NSA designations
- Local bylaws that rely on MEP TRs
- DEP is not recommending moratoria in advance of TMDL or approved IWRMP

Implementation Committee

Questions? Concerns? Issues?